



# User's Manual

## OD5+ Series

OPAL – Your AutoID System Integrator



## Version Information

Version:	1.4
Date:	20.09.2012

Version	Date	Description / Changes
1.0	22.01.2010	Document created
1.1	13.08.2010	Document supplemented with network information. Changed layout and structure
1.4	18.09.2012	Document supplemented with LAN / USB informations



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## EMS AND EMI COMPLIANCE STATEMENT FOR EUROPEAN USERS

This equipment has been tested and passed with the requirements relating to electromagnetic compatibility based on the standards EN50081-1 (EN55022 CLASS A) and EN61000-4-2/-3/-4/-5/-6/-8/-11 (IEC Part 2,3,4). The equipment also tested and passed in accordance with the European Standard EN55022 for the both Radiated and Conducted emissions limits.

## THE OD5 THERMAL PRINTER TO WHICH THIS DECLARATION RELATES IS IN CONFORMITY WITH THE FOLLOWING STANDARDS

EN55022 : 1998, CLSPR 22 , Class A / EN55024 : 1998 IEC 61000-4 Serial / EN61000-3-2 : 2000 / EN 61000-3-3 : 1995 / CRF 47, Part 15/CISPR 22 3rd Edition : 1997, Class A / ANSI C63.4 : 2001 / CNS 13438, CISPR 22(Class A) / IEC60950 3rd Edition (1999) / GB4943 : 2001 / GB9254 : 1998 / GB17625.1 : 2003

### CAUTION :

Danger of explosion if battery is incorrectly replaced  
Replace only with the equivalent type recommended by the manufacture.  
Dispose of used batteries according to the manufacturer's instructions.

## Safety Instructions

Please read the following instructions seriously.

1. Keep the equipment away from humidity.
2. Before you connect the equipment to the power outlet, please check the voltage of the power source.
3. Disconnect the equipment from the voltage of the power source to prevent possible transient over voltage damage.
4. Don't pour any liquid to the equipment to avoid electrical shock.
5. ONLY qualified service personnel for safety reason should open equipment.
6. Don't repair or adjust energized equipment alone under any circumstances. Someone capable of providing first aid must always be present for your safety.
7. Always obtain first aid or medical attention immediately after an injury. Never neglect an injury, no matter how slight it seems.



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## 1. The Label Printer OD5+ Series

### 1.1 General Information

The OD5+ Series are thermal transfer / thermal direct label printers. With its light plastic cover and its small dimensions it is an ideal and cost efficient solution for different uses. The printer has the following main specifications.

- Thermal direct and thermal transfer mode
- Print head resolution from 8 to 12 points per millimeter (203 or 300 dots per inch)
- serial, parallel, USB and ethernet interface
- Storage for complete labels, graphics and downloading of fonts (ca. 2 MB)
- Internal label core size of max. 125mm (5") and 300m ribbon length ( max square 64mm) on a 12,7mm (0.5") core
- 8MB SDRAM makes it possible to print labels with a length up to 172 cm (68")
- Peel off bar

### 1.2 The Printer Model OD5+



**OD5+ Series**

### 1.3 Printer Accessories

After unpacking, please check the accessories that come with the package, and store appropriately.

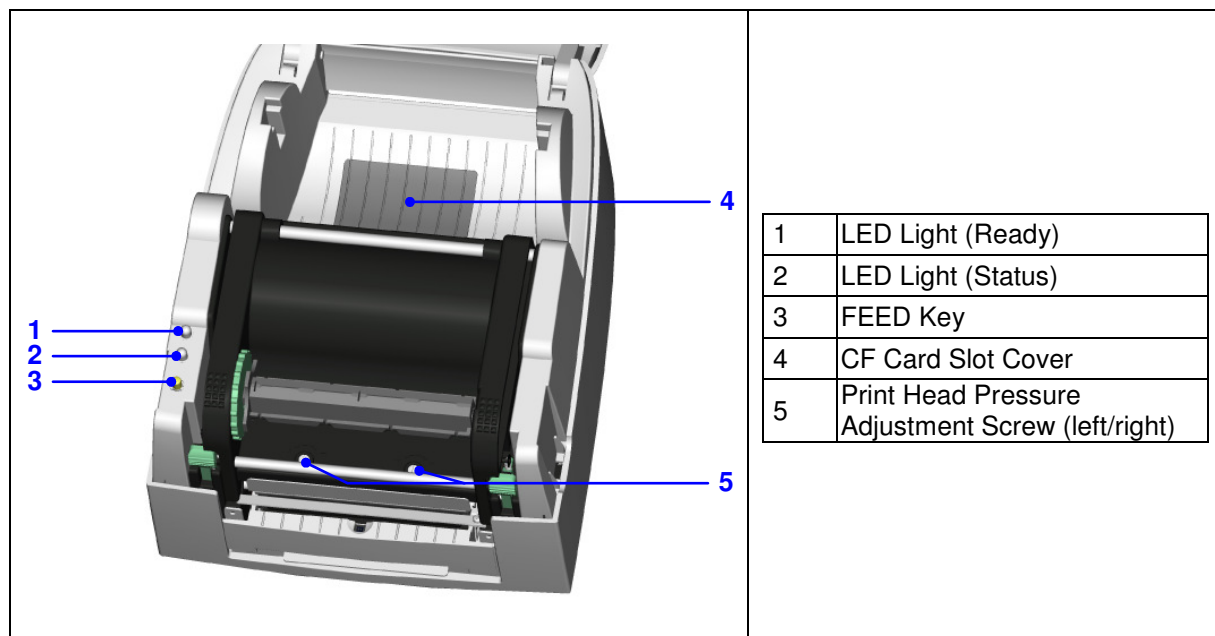
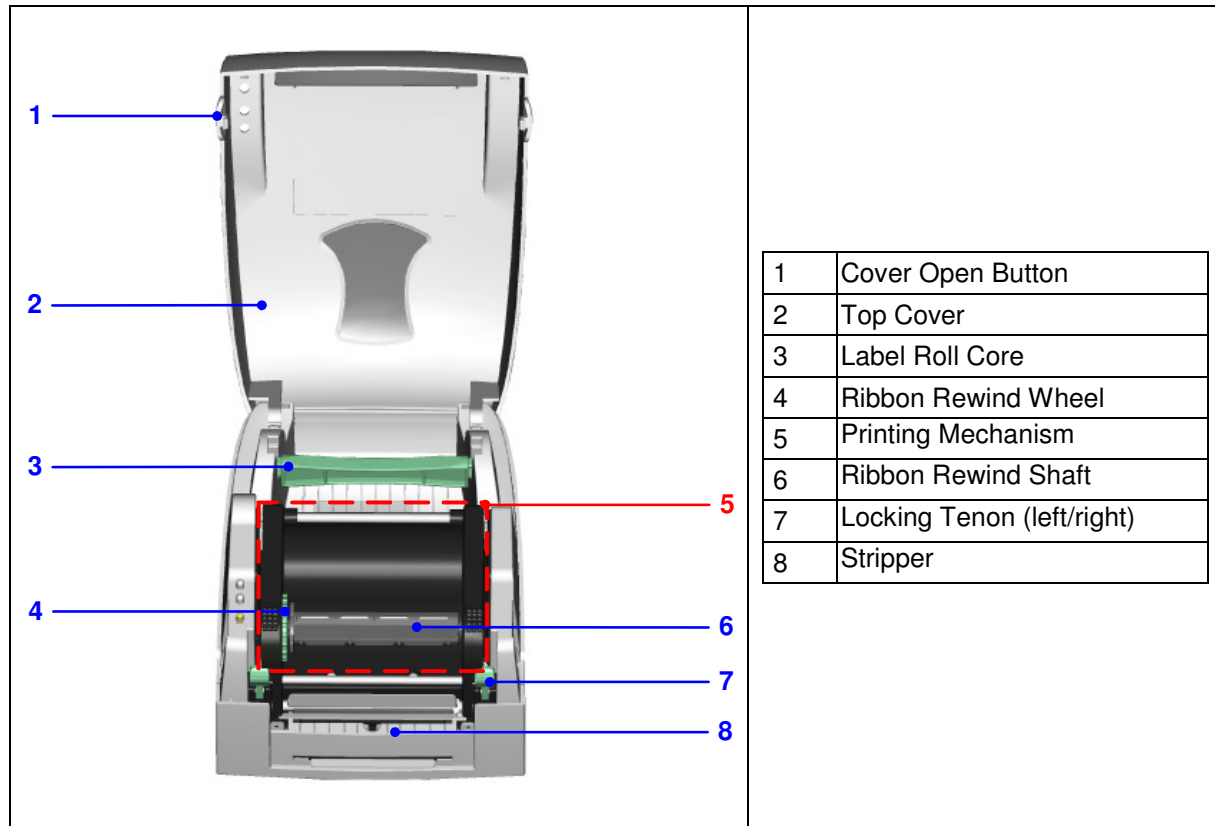
Barcode printer	2 power cords (220V EU / CH)	Power supply
Parallel cable	USB cable	Label roll core
Ribbon roll core (2 pieces)	Empty ribbon roll	Labels
Ribbon	CD-ROM	Quick start guide

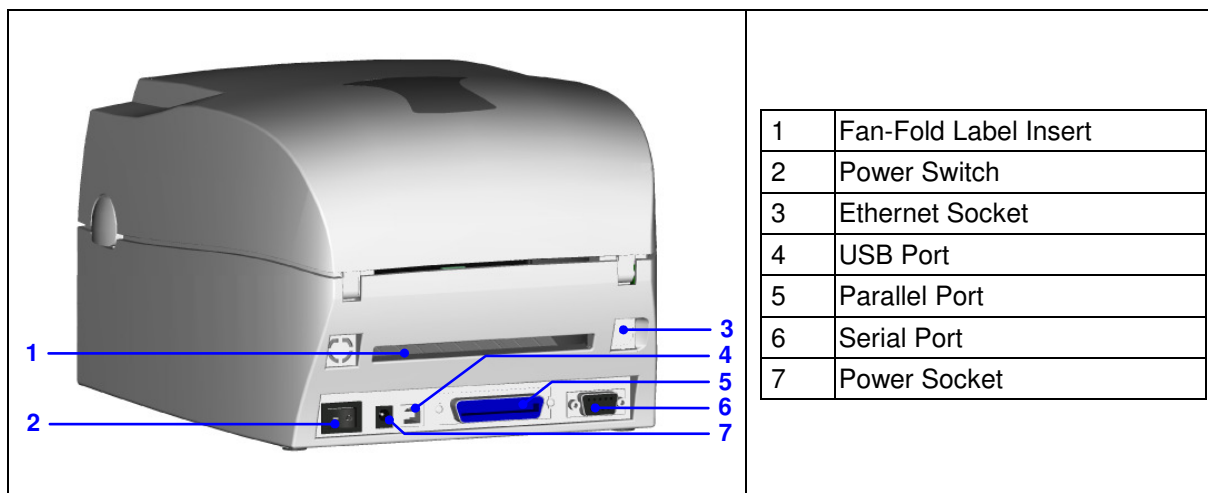
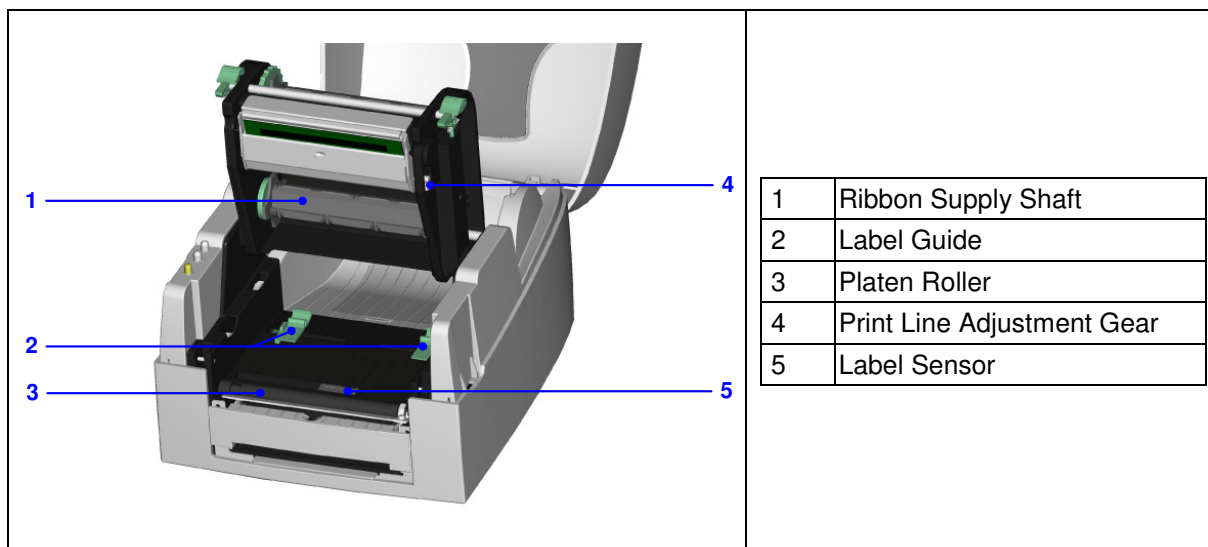
\* If the printer got damaged, because of using another power supply, the warranty claim can't be made applicable.



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## 1.4 Printer Parts



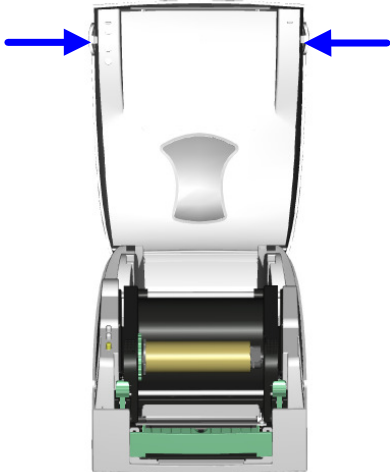
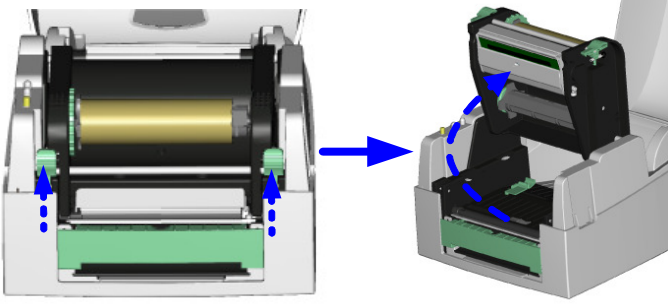


## 2. Printer Installation

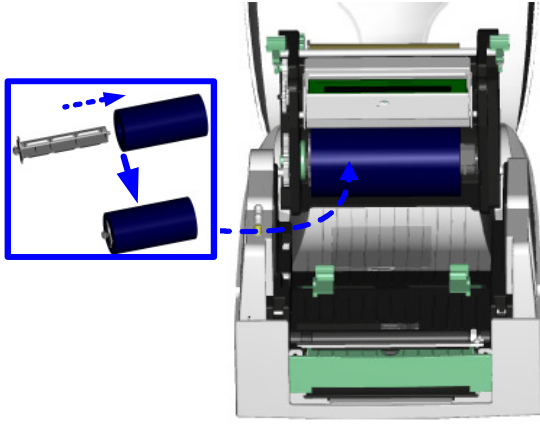
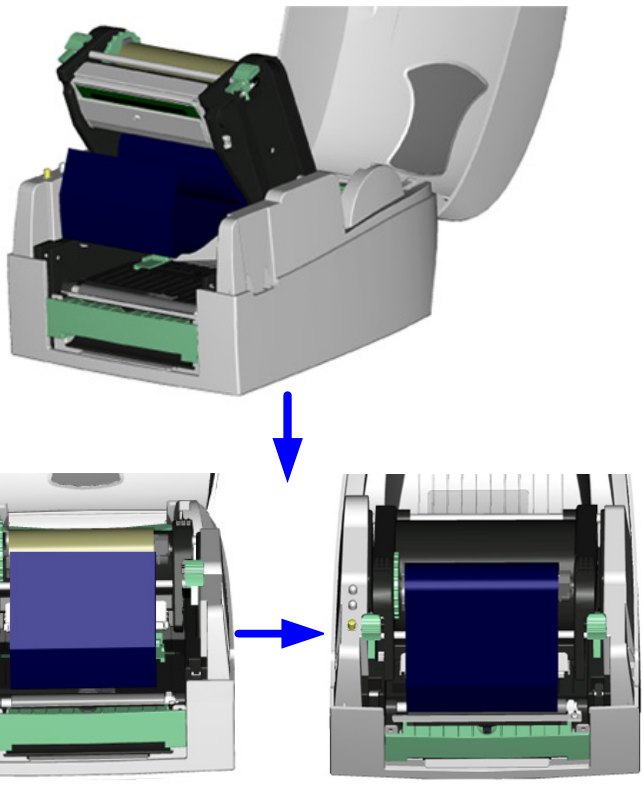
This printer model has the following print modes:

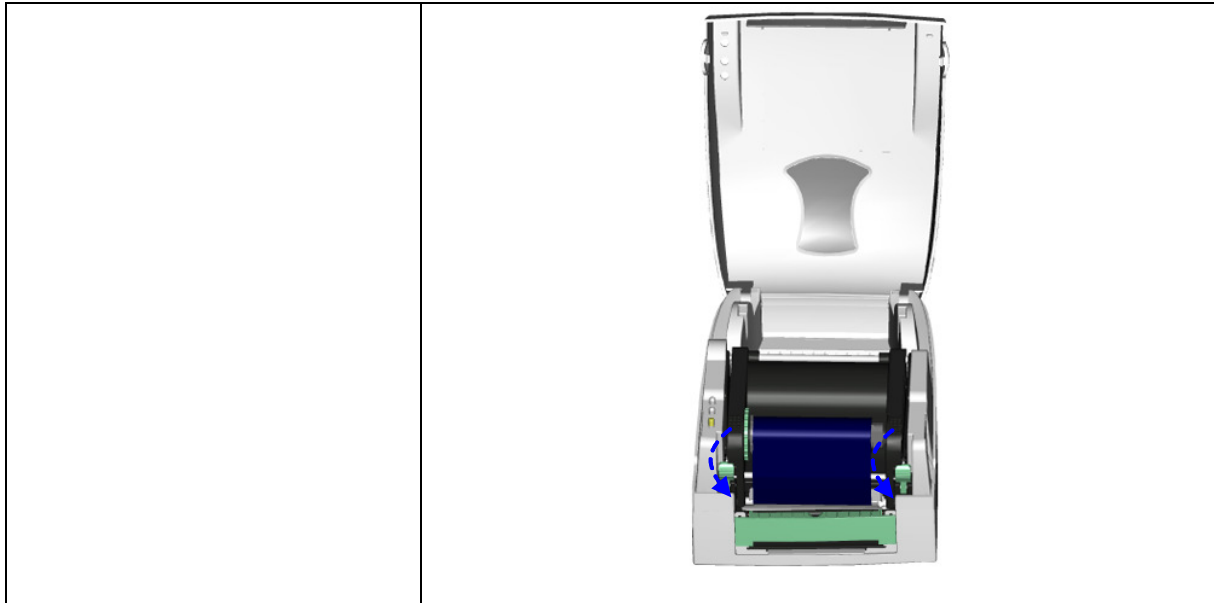
- Thermal Transfer: When printing, ribbon must be installed to transfer the print contents onto the media.
- Direct Thermal: When printing, no ribbon is necessary; it only requires direct thermal media.

### 2.1 Ribbon Installation

<p>1. Place the printer on a horizontal surface, and open the top cover by pressing the Cover Open Buttons on both sides.</p>	
<p>2. Loosen and then lift the printing mechanism by pressing the locking tenons.</p>	



<p>3. Place a new ribbon roll onto the ribbon supply shaft.</p>	
<p>4. Feed the ribbon from the Ribbon Supply Shaft under the Print Head</p> <p>5. Wrap the ribbon around the Ribbon Shaft and stick the ribbon onto the Empty Ribbon Roll Core.</p>	
<p>6. Firmly close the printing mechanism.</p>	

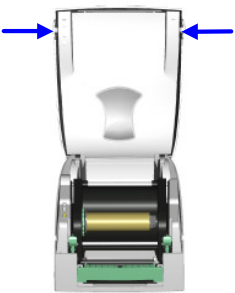
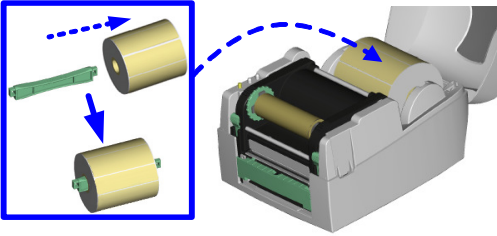
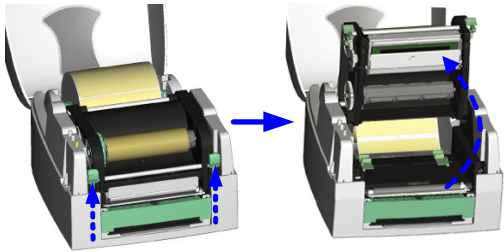
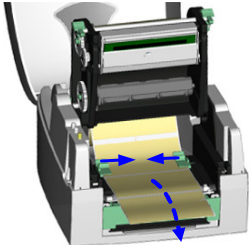
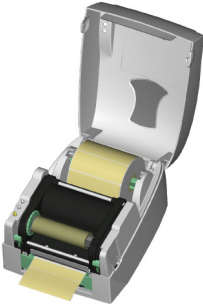


**Note:**

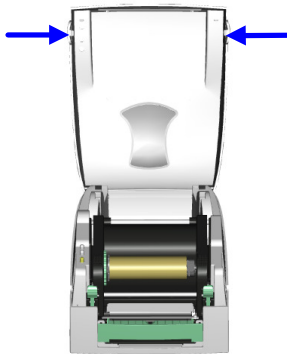
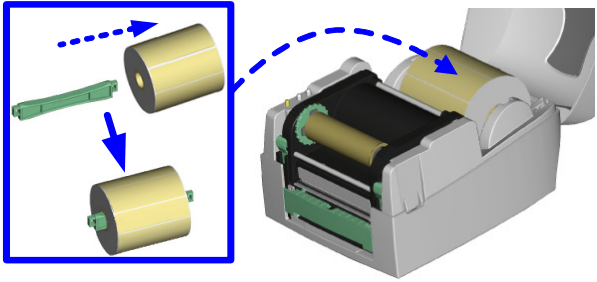
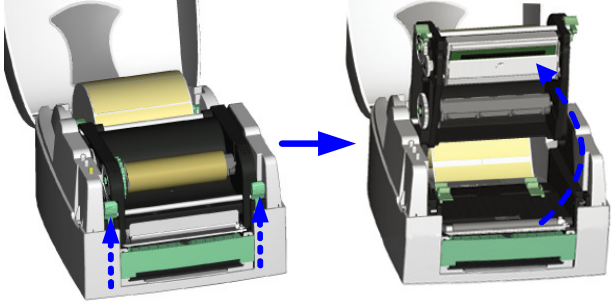
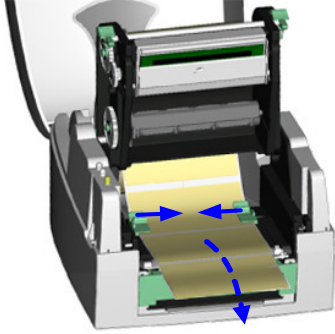
- On [www.opal-etiketten.com](http://www.opal-etiketten.com) you will find all informations to label and ribbon types. So you can achieve, with the OD5+ printer, optimum print results.

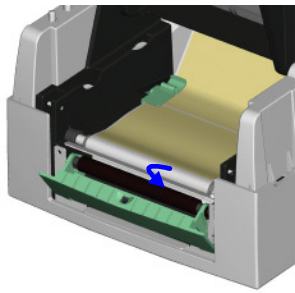
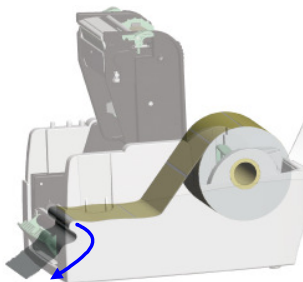
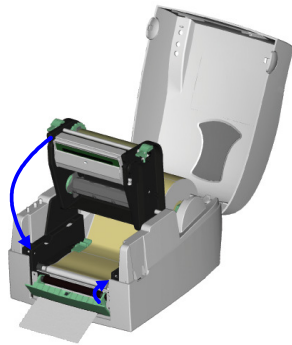



## 2.2 Label Installation

<p>1. Open the top cover by pressing the Cover Open Buttons on both sides</p>	
<p>2. Place the label roll onto the Label Roll Core.</p> <p><i>Correct Placement is shown in chapter 2.4</i></p>	
<p>3. Loosen and lift the printing mechanism by pressing the locking tenons.</p>	
<p>4. Feed the label through the two Label Guides to the Tear-off Bar.</p> <p>5. Align the label guides to the label edge.</p>	
<p>6. Close the printing mechanism from the top to finish label installation.</p>	

## 2.3 Label Installation with Stripper

<p>1. Open the top cover by pressing the Cover Open Buttons on both sides.</p>	
<p>2. Place the label roll onto the Label Roll Core.</p> <p><i>Correct Placement is shown in chapter 2.4</i></p>	
<p>3. Loosen and lift the printing mechanism by pressing the locking tenons.</p>	
<p>4. Feed the label through the Label Guides.</p> <p>5. Align the Label Guides to the label edge.</p>	

<p>6. Peel off the first label, and feed the liner through the roller and the Tear-off Bar.</p>	
<p>7. Follow the direction as shown in figure to feed the liner across the stripper.</p>	
<p>8. Close the printing mechanism and the stripper.</p>	
<p>9. Press the FEED key to adjust the position of label and complete the installation.</p>	

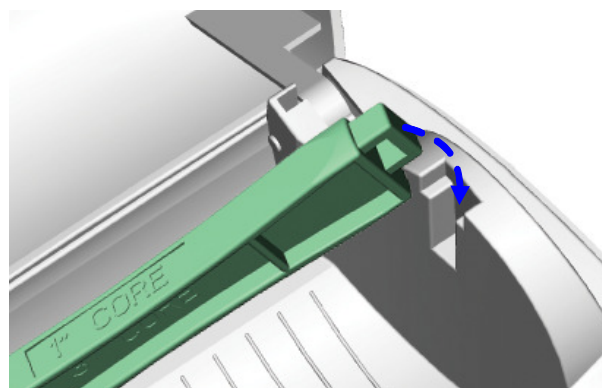
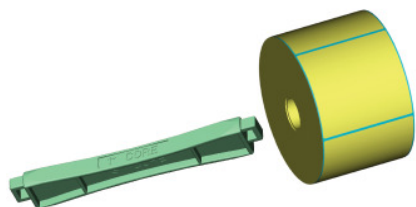
**Notes:**

- *Label liner thickness is recommended to be  $0.06\text{mm} \pm 10\%$  with basic weight  $65\text{g/m}^2 \pm 6\%$ .*
- *The label / paper used for stripper are suggested to be at least 25mm in height.*
- *The max label width for stripper is 110mm.*

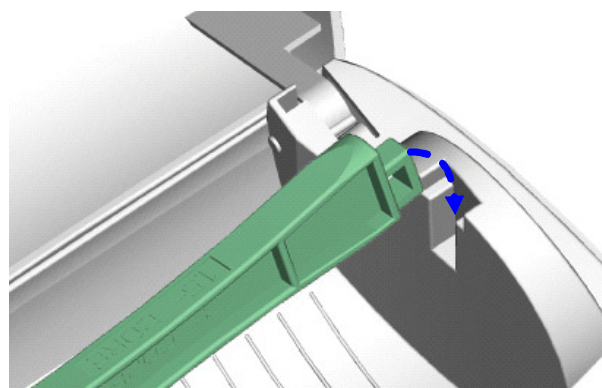
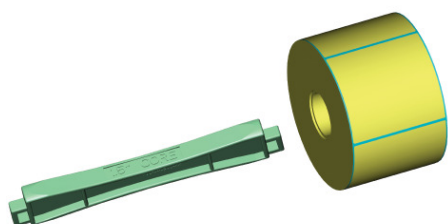


## 2.4 Label Roll Core Installation Instruction

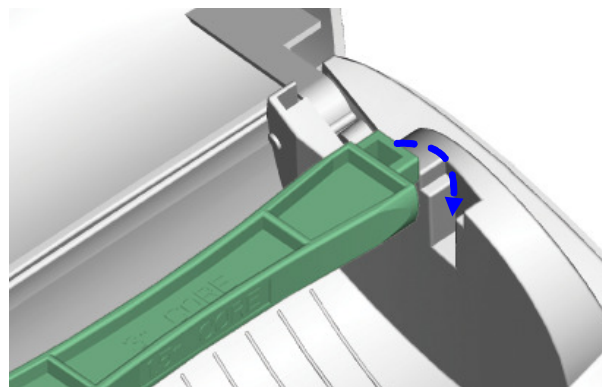
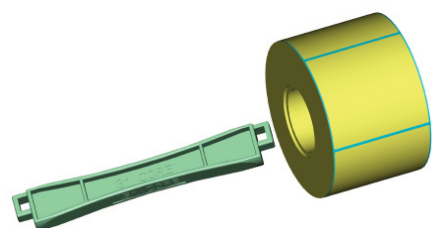
(A) roll core installation for 25,4mm (1") core



(B) roll core installation for 38,1mm (1.5") core

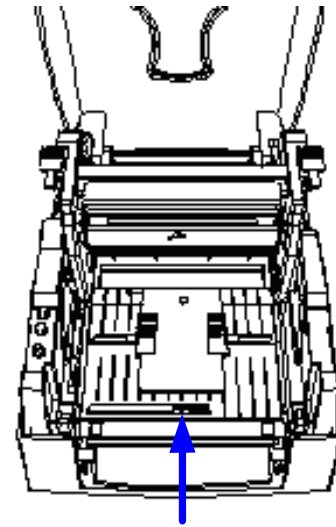
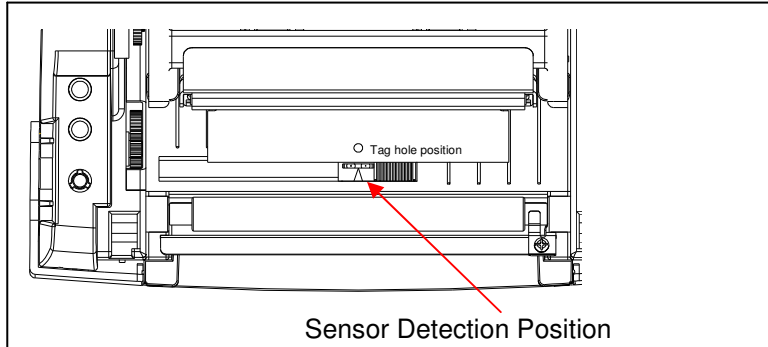


(C) roll core installation for 76,2mm (3") core



## 2.5 Card / Hang tags Installation

When installing cord tags, the tag hole must align with the sensor arrow (as indicated in figure), then use the Label Guide to secure the tags.





## 2.6 Feed Key Functions

After tapping the FEED button, printer will feed the label (according to label type) to the specified stop position. When using continuous media, tapping the FEED button will feed the label out to a certain length. When using labels with gaps, tapping the FEED key will feed one label at a time. If the printer shifts the label wrong, start with the autosensing function.

### Autosensing function

1. Load media in the printer.
2. Press and hold the FEED button while turning the power switch to the "On" position (-).
3. The two status LEDs blink orange. Release the FEED button and the printer automatically adjusts the label gap and black mark sensor.
4. After a short delay, a test label will be printed out and the printer will enter in dump mode.
5. Press the FEED button once again to return to normal operation (out of dump).

### Resetting the printer

1. Load media in the printer.
2. Press and hold the FEED button while turning the power switch to the "On" position (-).
3. The two status LEDs blink orange. Release the FEED button and the printer automatically adjusts the label gap and black mark sensor.
4. After a short delay, a test label will be printed out and the printer will enter in dump mode.
5. Press and hold the FEED button for at least 3 seconds after the test label has been printed to reset the printer to the default settings. The status LED will glow red indicating that the printer has been resetted to the default settings and the LED will cycle to green.





## 2.7 Self Test

The Self-Test page helps the user to figure out whether the printer is operating normally. Below are some general descriptions about the content of the Self-Test page.

Model (printhead resolution)	→	Model: OD5+ (8 dot/mm)
Firmware version, Checksum of the F/W (4E70)	→	Version: E3.0D7, 4E70
Serial Port settings	→	Serial port : 96,N,8,1,XON/XOFF
Printhead test pattern	→	#####
Cash-memory for print jobs	→	DRAM size : 1500K
Available memory for forms, fonts and graphics	→	User Memory: 2046K
Number and size of forms	→	Fmem: Used 000K, 000 Form(s)
Number and size of graphics	→	Gmem: Used 000K, 000 Graphic(s)
Number and size of fonts	→	Emem: Used 000K, 000 Font(s)
Number and size of asian fonts	→	Amem: Used 000K, 000 AsianFont(s)
Code Page (Standard 850)	→	Code Page: 850
Print speed	→	Speed: 3 Inch
Print darkness	→	Darkness: 10
Label Width (640 dot / 8dot = 80mm)	→	Width: 640 dot
Label Length (809 dot / 8dot = 101.1mm)	→	Length: 809 dot
Label Gap (23 dot / 8dot = 2.9mm)	→	Gap: 23 dot
Print Mode: Thermal Transfer or Direct Thermal	→	Print Mode: Thermal Transfer
Label Sensor: on/off (recognize label: ok/not ok)	→	Reflective Sensor: ON (Detect OK)
LAN Port State (LAN active, USB inactive)	→	LAN port : active
Network cable connected or not	→	Network Settings: LAN ON-LINE
LAN or WLAN interface activ	→	Interface: LAN
MAC-Address of the ethernet card	→	MAC address: 00-11-e5-01-51-63
DHCP or static IP-Protocol activ	→	IP protocol: dhcp
IP-Address of the ethernet-card	→	IP address: 192.168.1.2
Network mask	→	Netmask: 255.255.255.0
Default gateway of the network	→	Default gateway: 192.168.1.1
DNS-Server	→	DNS: 192.168.1.10



## 2.8 Dump Mode

When the printout result doesn't match to the label format settings, it is recommended to change into the Dump Mode to check whether any mistake exists in data transmission between the printer and the PC. For example, when printer receives 8 commands, yet without processing these commands, only printing out the contents of commands, this will confirm whether the commands were received correctly or not. To enter the Dump Mode, please do as follows:

1. Load media into the printer.
2. Press and hold the FEED button while turning the Power switch to the "On" position (-).
3. Release the Feed button and the printer will perform the Autosensing automatically.
4. After a short delay, a test label will be printed out and the printer will enter in Dump mode.

To cancel (get out of the Dump Mode), press the FEED key, the printer will automatically print out "OUT OF DUMP MODE". This indicates that the printer is back in the standby mode.

*Note: As second option to get out of the Dump Mode you can power off the printer.*



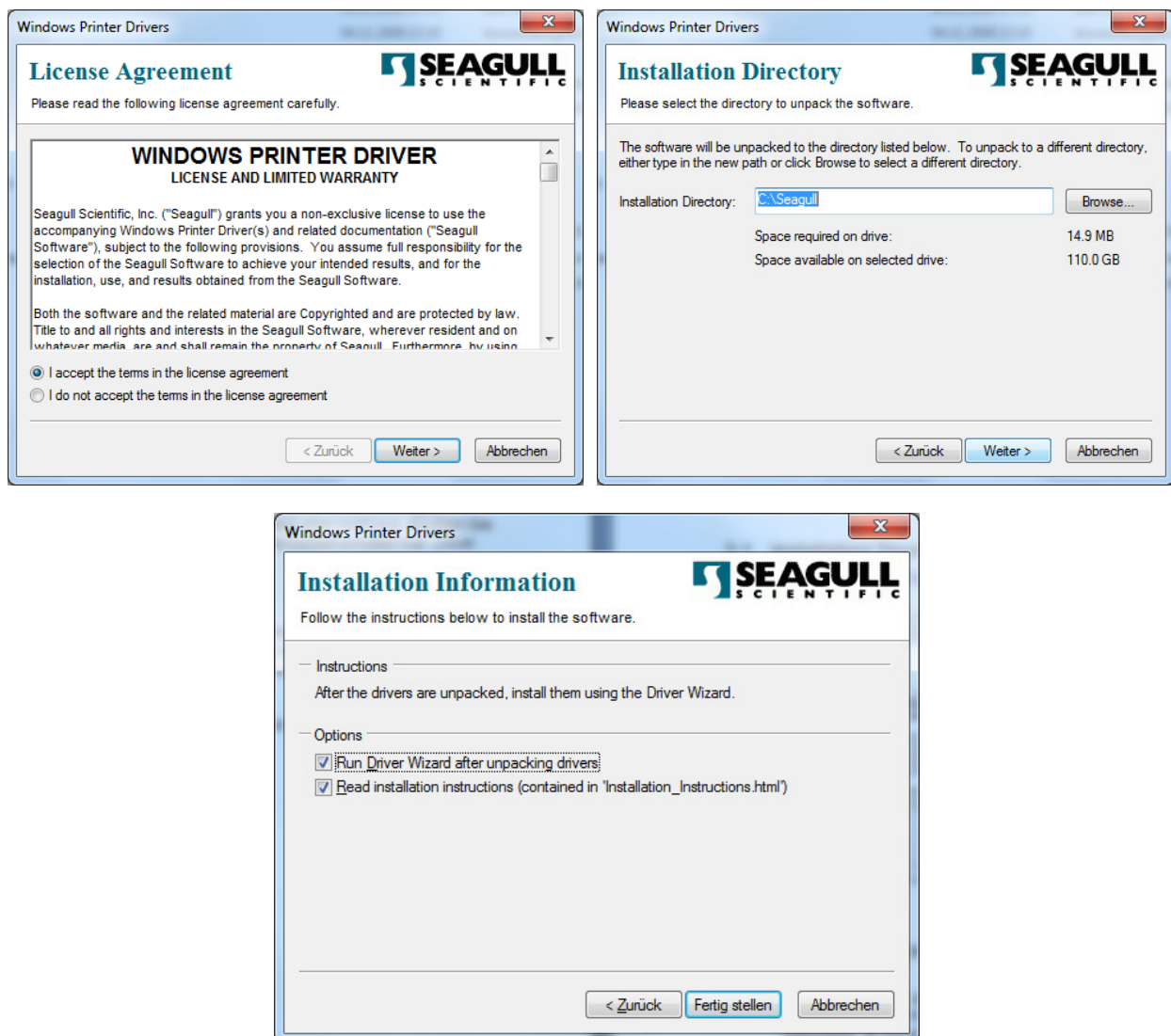
### 3. PC Connection

Depending on which model you have, you can operate with the OD5 + Series over Ethernet, USB, serial or parallel interface. When installing the printer driver, you must make sure that you select the correct connection typ.

#### 3.1 Installing the printer driver

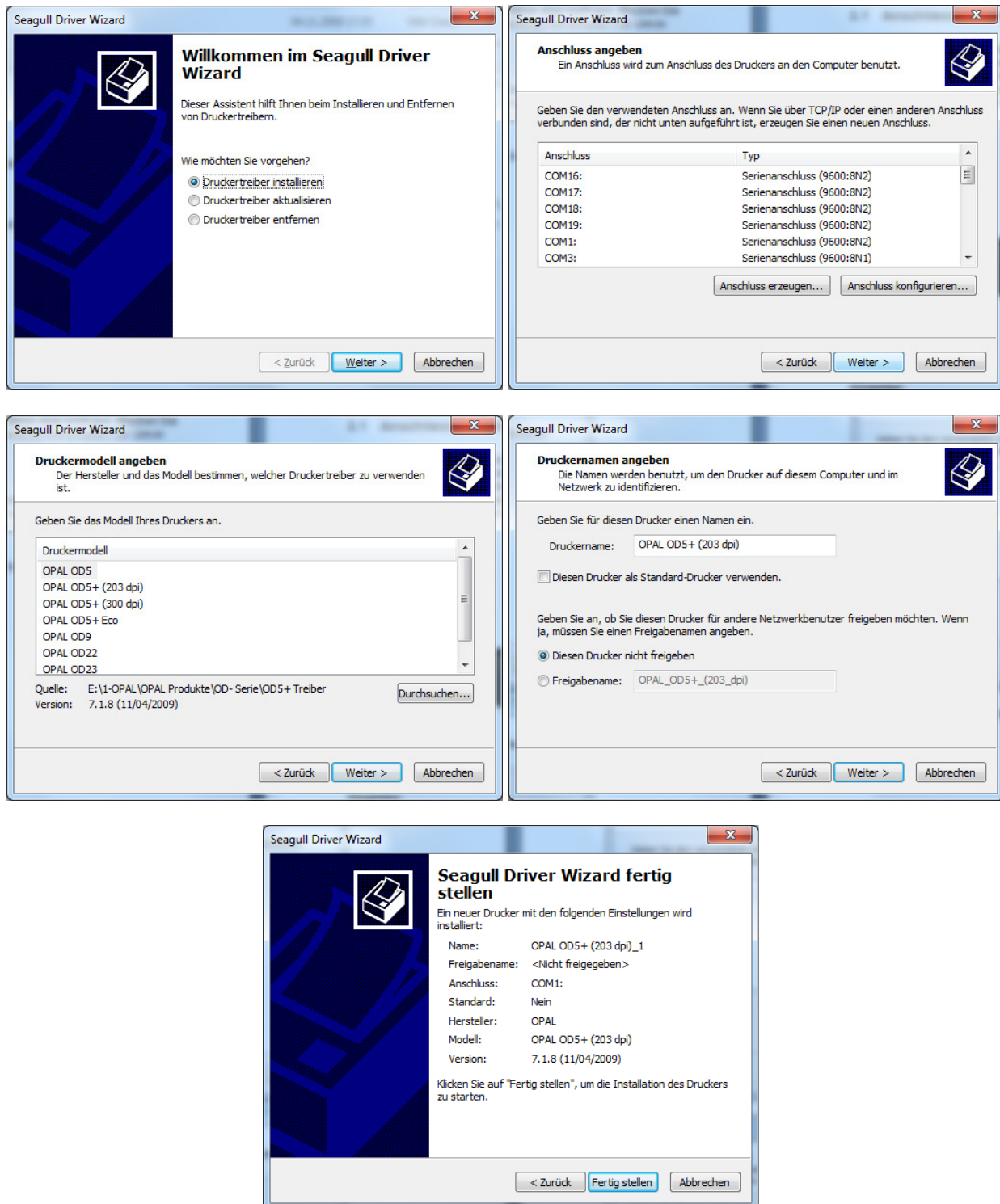
You can download the printer driver also from <http://www.opal-holding.com/od/index.html> under OD-Treiber or from the [www.seagullscientific.com](http://www.seagullscientific.com) homepage.

When executing the application OPAL.exe accept the license agreement. Enter a location to where the files should be stored. Then run the Driver Wizard.



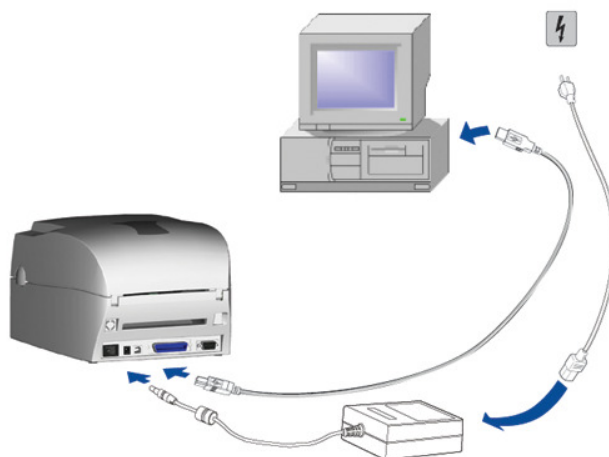
After extracting files and running the driver wizard, the following steps are to do.

1. Select Install Printer Driver
2. Select interface which is printed on
3. Select printer model
4. Set printer name and if required, a network share name
5. Finish the installation



### 3.2 Direct Connection to PC/Notebook

1. Please make sure the printer is powered off.
2. Take the power cable, plug the cable switch to the power socket, and then connect the other end of the cable to the printer power socket.
3. Connect the cable to the USB/parallel port on the printer and on the PC.
4. Power on the PC and the printer and the printer's LED light will shine.



#### Notes:

##### Serial Interface

- If you work with the printer over the serial interface, be sure that no other software, driver or device use the same COM Interface too.

Default Setting of the serial interface are.

Baud Rate: 9600  
 Parity: none  
 Data Bits: 8  
 Stop Bits: 1  
 Flow Control: XON/XOFF

##### USB Interface

- If you want to use the USB interface, then please install first the driver on your PC.
- On the OD5+ and OD5+300 printers the USB port is disabled by default and the LAN port is enabled. With the command „^usb [CR]“ you can set the USB port active. „^lan [CR]“ command activates the ethernet port.



### 3.3 Connection to the network

1. Make sure the printer is turned off
2. Set the electricity supply
3. Connect the network cable to the printer and the network socket on
4. Turn on the printer. The LED lights green.

The printer automatically receives from network (DHCP) an IP address when the printer is turned on.

The following options are available, to find out the IP address from the printer.

- Print a test label as described in chapter 2.6 and 2.7.
- Install the Software "Setup Control Center" and run this tool. This tool can be found on the folder <http://www.opal-holding.com/od/index.html> under OD5 + software.
- If you have connected the printer via a serial connection, you can send the command via Hyper Terminal or Tuffy ~S, get "ip". The answer is the IP address of the printer

Over the web interface you can now change the TCP / IP settings.

Login data:

User: **admin**

Password: **admin**

#### Enabling USB or LAN Interface:

##### By keyboard:

- *Press FEED button while switching power on*
- *USB port: 1 beep, READY LED flashes green and the STATUS LED flashes orange, release the FEED button*
- *LAN port: 3 beeps, READY LED flashes red and the STATUS LED flashes orange, release the FEED button*
- *Steps 2-3 will repeat as long as the FEED button is pressed*

##### By software:

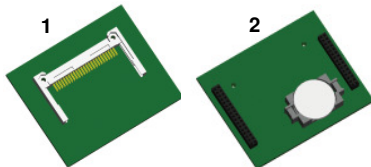
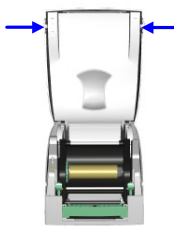
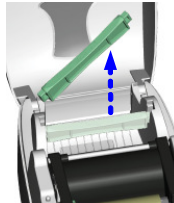
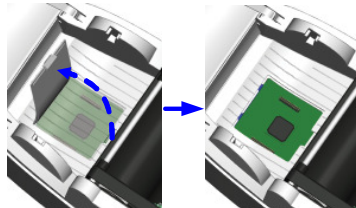
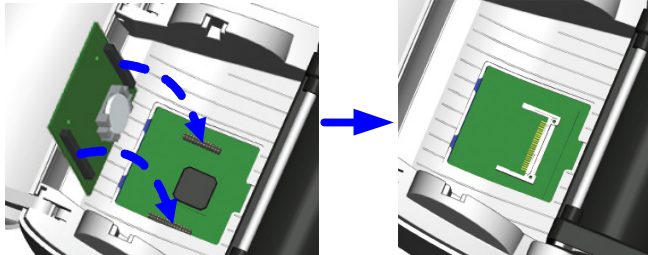
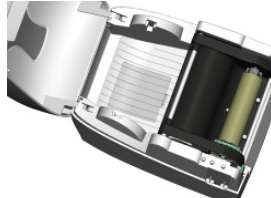
- *On the OD5+ and OD5+300 printers the USB port is disabled by default and the LAN port is enabled. With the command „^usb [CR]“ you can set the USB port active. “^lan [CR]“ command activates the ethernet port.*
- *Installation of OD5 + Eco with a Ethernet card, you need to send the "lan ^ [CR]" command to activate the Ethernet Interface.*





## 4. Accessories

### 4.1 CF-Card Adapter Installation

1	CF Card adapter (Front)	
2	CF Card adapter (Back)	
<p><b>Note:</b></p> <ul style="list-style-type: none"><li><i>Please power off the printer before installing the CF Card adapter</i></li></ul>		
1. Open the top cover by pressing the Cover Open Buttons on both sides.		
2. Take off the label roll core.		
3. Open and remove the plastic cover from the inner base.		
4. Check the correspondent pins and sockets to plug the adapter card onto the main board.		
<p><b>Note:</b></p> <ul style="list-style-type: none"><li><i>Please make sure the sockets and the pins are matched in line, otherwise the pins may get damaged.</i></li></ul>		
5. Close the plastic cover.		



## 4.2 CF Card Instructions

OD5+ series printers can read CF cards, if a CF card adapter is installed. If the built-in memory is insufficient for storing label formats, graphics or fonts, users can use CF cards as external memory to provide more memory space.

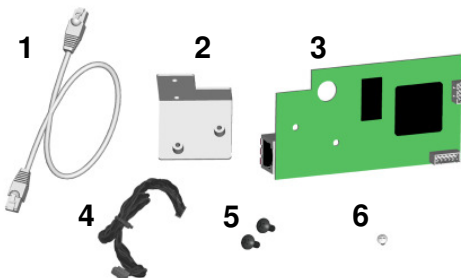
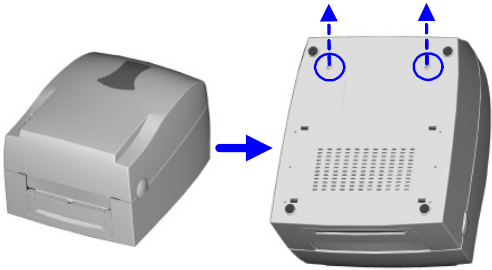
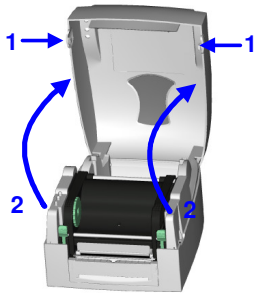
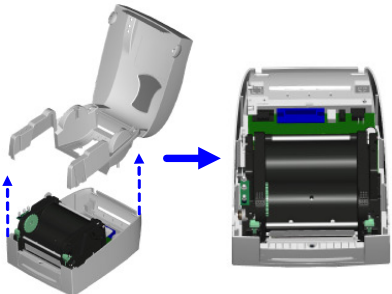
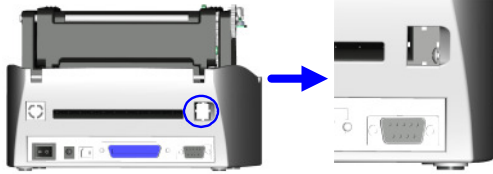
When using the CF card, please follow the instruction as below:

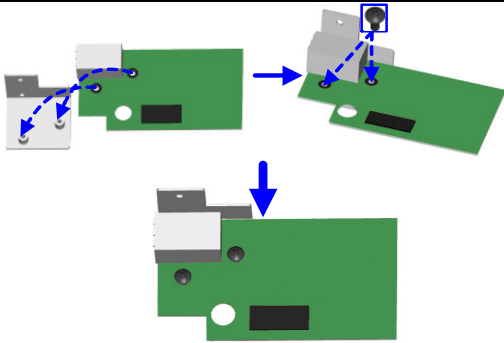
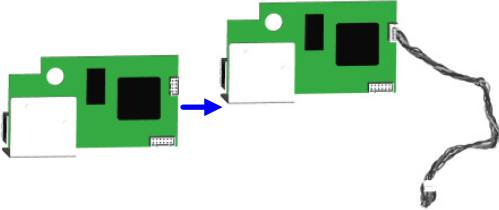
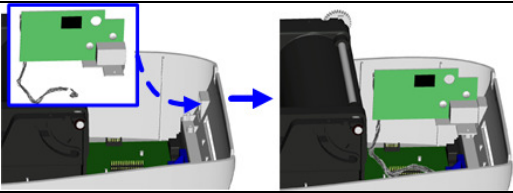
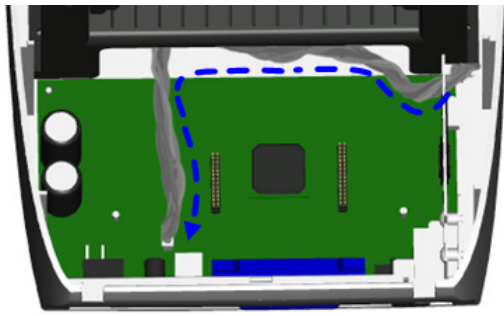
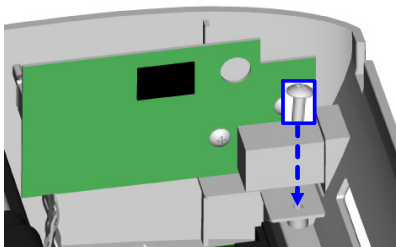
1. Please power off the printer before installing or removing CF card from the card slot.
2. The CF cards cannot be used for printer's external memory until they are formatted in FAT16.
3. When the Ready-LED lights red, the CF card will be formatted. When the Ready-LED lights green the formatting is ended.
4. After formatting is completed, a file folder named "CF" will be created automatically. This folder is for storing all the data from the printer, please don't do any change on it.
5. The specifications of the CF card that are supported by the printer are as follow :
  - Compact Flash Type I
  - Compact Flash (CF)-Specification v1.4
  - Capacity: 128MB ~ 1GB
  - File system: FAT16
6. With the command M1, you activate the external memory.





### 4.3 Installation Ethernet Module

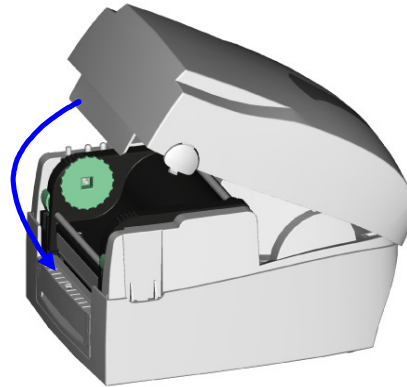
1	Ethernet Cable 1.8M	
2	Bracket	
3	Ethernet Module	
4	Module Connection Wire	
5	Bracket Screw*2	
6	Secure Screw*1	
<b>Note:</b> <ul style="list-style-type: none"> <li>Please make sure that anti-static precautions are adopted during the installation.</li> </ul>		
<ol style="list-style-type: none"> <li>Make sure the power is off and the power cable is unplugged. Place the printer onto a smooth surface and flip the whole printer unit upside down.</li> <li>Unscrew the screws as indicated in figure.</li> </ol>		
<ol style="list-style-type: none"> <li>Press the Cover Open Button and open the top cover.</li> </ol>		
<ol style="list-style-type: none"> <li>Remove the middle compartment and the top cover.</li> </ol>		
<ol style="list-style-type: none"> <li>Remove the Ethernet port cover from back plate of the printer.</li> </ol>		

<p>6. Secure the Ethernet module onto the bracket.</p>	
<p>7. Cut the cable tie on the Module Connection Wire. Then Plug the connector into the socket on Ethernet module.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li><i>Please cut the cable tie carefully. Do not damage the Module Connection Wire.</i></li> </ul>	
<p>8. Align the Ethernet module to the Ethernet port and plug into it.</p>	
<p>9. Thread the Module Connection Wire through the other connection wires on the mainboard as the direction showed in figure.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li><i>Please organize all cables and wires well before putting middle compartment and top cover back to ensure that the printer can be assembled correctly.</i></li> </ul>	
<p>10. Secure the module onto the back plate.</p>	

11. To complete installation, put the middle compartment back and tighten it onto the bottom of the printer, then put the top cover back.

**Note:**

- *After the Ethernet module installation is completed, please send corresponding printer command to printer for activating the Ethernet connection function. Please mind that USB port will be deactivated once the Ethernet connection function is activated.*



## 5. Maintenance and Adjustment

### 5.1 Error Messages

LED Light		Beep	Description	Solution
Ready	Status			
	Red	4 beeps twice	Print head is not firmly closed.	Re-open the print head and make sure it closes tightly.
Red (Flash)	Red (Flash)	None	The temperature of the print head is too high.	Wait until the print head temperature drops to the normal temperature range, printer will go back to the standby mode and the LED light will stop flashing.
	Red	3 beeps twice	Ribbon is not installed, and printer shows error message.	Make sure the printer is in the direct thermal mode.
			Ribbon is used up or ribbon supply shaft is not moving.	Replace with new ribbon roll.
	Red	2 beeps twice	Unable to detect paper.	Make sure the movable sensor mark is at the correct position, if the sensor is still unable to detect paper, then go through Auto-Sensing again.
			Paper used up.	Replace with new label roll.
	Red	2 beeps twice	Abnormal paper feed.	Possible causes: card tags or paper felt into the gap behind the platen roller, can't find label gap/black mark, black mark paper out. Please adjust it according to actual usage.
	Red	2 beeps twice	Memory is full; printer will print out "Memory full."	Delete unnecessary data in the memory.
	Red	2 beeps twice	Can't find the file; printer will print out "Filename can't be found."	Use "~X4" command to print out all the files, and then check whether the file exist and the file name is correct.
	Red	2 beeps twice	File name is repeated; printer will print out "Filename is repeated."	Change the file name and download again.



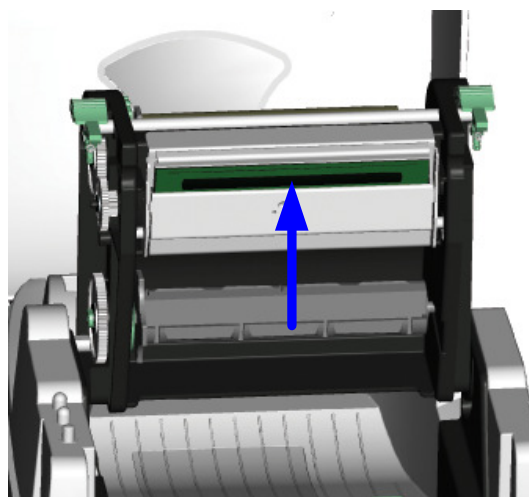
## 5.2 Thermal Print Head Cleaning

Unclear printouts may be caused by dusty print head, ribbon stain or label liner glue. Therefore when printing, it's necessary to keep the top cover closed. Also, check and prevent paper/label from being stained or dusty to ensure print quality and to prolong the print head life. Print head cleaning instructions are as follows:

1. Power-off the printer.
2. Open the top cover.
3. Take out the ribbon.
4. Open the print head by pressing the locking tenons.
5. If there are label pieces or other stain on the print head(see blue arrow), please use a soft cloth with industrial use alcohol to wipe away the stain carefully. Never bring the print head in contact with hard or metallic things.

**Note:**

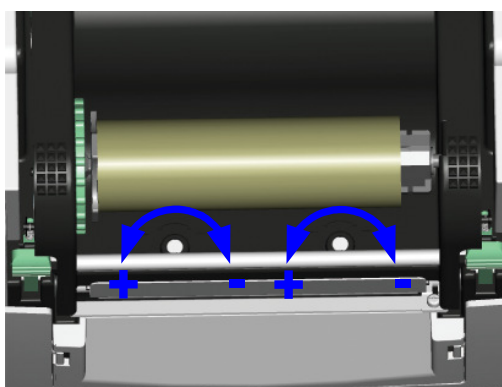
- *Weekly cleaning of the print head is recommended*
- *When cleaning the print head with soft cloth, make sure there are no metal or hard particles attached on it.*
- *(we recommend to use our Cleaning Set: [OPAL-Cleaning Kit](#))*



## 5.3 Thermal Print Head Balance Adjustment

When printing with different label materials or using different ribbon types, unbalanced print quality may occur due to the media material differences, thus it's necessary to adjust the Thermal Print Head pressure.

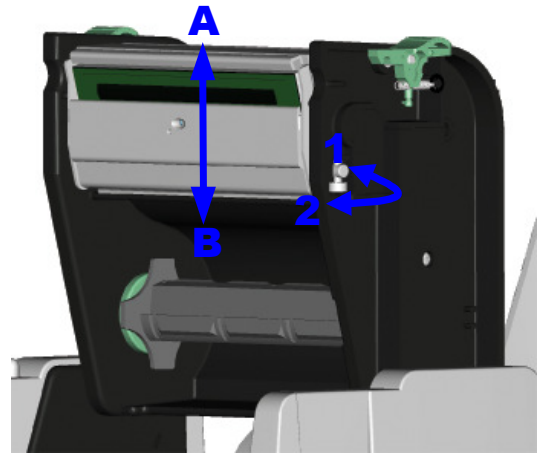
1. Open the top cover.
2. Take out the ribbon.
3. Turn the print head adjustment screws slightly by screwdriver to increase or decrease print head pressure.



## 5.4 Print Line Adjustment

To get better printing balance and quality, use the print head adjusting gear to adjust the contacting surface between print head and label.

1. When turning the print head adjusting gear counter-clockwise (as arrow 1 shows), the print head will move in the direction where arrow A shows.
2. When turning the print head adjusting gear clockwise (as arrow 2 shows), the print head will move in the direction where arrow B shows.



## 5.5 Troubleshooting

Problem	Recommended Solution
Power on the printer, but the LED does not light up	<ul style="list-style-type: none"> <li>◆ Check the power connector</li> </ul>
LED light turns red (power/status) after print stops	<ul style="list-style-type: none"> <li>◆ Check for software settings or program command errors</li> <li>◆ Replace with suitable label or ribbon</li> <li>◆ Check if label or ribbon is all out</li> <li>◆ Check if label is jammed/tangled up</li> <li>◆ Check if printing mechanism is not closed (Thermal Print Head not positioned correctly)</li> <li>◆ Check if sensor is blocked by paper/label</li> </ul>
Printing started, but nothing was printed on the label	<ul style="list-style-type: none"> <li>◆ Check if label is placed upside down or if label is not suitable for the application</li> <li>◆ Select the correct printer driver</li> <li>◆ Select the correct label and print type</li> </ul>
When printing, label is jammed/tangled up	<ul style="list-style-type: none"> <li>◆ Clean the label jam, and if label is stuck on Thermal Print Head, please remove it by using soft cloth with alcohol.</li> </ul>
When printing, only part of the contents were printed	<ul style="list-style-type: none"> <li>◆ Check if label or ribbon is stuck on the Thermal Print Head</li> <li>◆ Check if application software has errors</li> <li>◆ Check if start position settings has errors</li> <li>◆ Check if ribbon has wrinkles</li> <li>◆ Check if ribbon supply shaft is creating friction with the platen roller. If the platen roller needs to be replaced, please contact your reseller for more information</li> <li>◆ Check if power supply is correct</li> </ul>
When printing, part of the label wasn't printed completely	<ul style="list-style-type: none"> <li>◆ Check if Thermal Print Head is stained or dusted</li> <li>◆ Check the media quality</li> </ul>
Printout not in desired position	<ul style="list-style-type: none"> <li>◆ Check if sensor is covered by paper or dust</li> <li>◆ Check if liner is suitable for use, please contact reseller for more information</li> <li>◆ Check if label roll edge is aligned with Label Width Guide</li> </ul>
When printing, page skipping occurs	<ul style="list-style-type: none"> <li>◆ Check if error occurs on label height settings</li> <li>◆ Check if sensor is covered by dust</li> </ul>
Unclear printout	<ul style="list-style-type: none"> <li>◆ Check print darkness settings</li> <li>◆ Check if Thermal Print Head is covered with glue or stain</li> </ul>
When using stripper, abnormal function occurs	<ul style="list-style-type: none"> <li>◆ Check if stripper sensor is covered with dust</li> <li>◆ Check if label is installed properly</li> </ul>

### Note:

- *Your dealer is knowledgeable about OD5+ printers, printing software, and your unique system. Please contact your local dealer for further technical support.*





## 6. Specifications

### 6.1 General Specifications

Model Name	OD5+ECO	OD5+	OD5+300
Resolution	203 dpi (8 dots/mm)		300 dpi (12 dots/mm)
Print Method	Thermal transfer / thermal direct		
CPU	32 Bit		
Label Sensor	Adjustable (Sensor snaps into place)		
Sensor Type	Reflective / Transmission		
Label Detection	Types: Label Gap, Black Mark and punched hole Detection: The length of the label and/or by software (driver) defined length of label.		
Max Print Speed	100 mm/s (4 IPS)		
Print Length	Min. 10mm (0.39") Max. 1727mm (68")		Min. 10mm(0.39") Max. 762 mm (30")
Print Width	108mm (4.10")		105,7mm
Label Role-Ø	Max. 127mm (5")		
Label Core-Ø	25.4 mm, 38.1 mm, 76.2 mm (1", 1.5", 3")		
Label Width	25mm to 118mm (1"bis 4.65")		
Label Thickness	0.06~0.3mm (0.0025"~0.012")		
Ribbon	Length: 300 m (981 ft) Max. Outside diameter: 64mm (2.52 ") Types: Transfer Ribbon (wax, wax/resin, resin) In width 30mm to110mm (1.88" - 4.33") Inner diameter of the core: 12,7mm (0.5")		
Printer Language	EPL		
Software	Application: Seagull Bartender Evaluation DLL & Driver: Microsoft Windows NT 4.0, 2000, XP, Vista und Windows 7		
Internal Fonts	5 internal alphanumerical fonts. Those can horizontal 8 and vertical 9 times be changed. All fonts can be set in 4 different directions.		
Graphic Format	Printer changes common graphics to internal format		
Barcodes	Code 39, Code 93, Code 128 auto(Untergruppe A, B, C), UCC/EAN-128, UPC A / E (add on 2 & 5), I 2 of 5, I 2 of 5 with mod 10 check digit , I 2 of 5 with human readable check digit, EAN 8 / 13 (add on 2 & 5), Codabar, Postnet, MaxiCode, PDF417, Datamatrix, QR code, Micro QR Code		
Interfaces	Serial, parallel, USB	Serial, parallel, USB and LAN	
Baud Rate	4800 ~ 38400 Baud, XON/XOFF, DSR/DTR		
Memory	4MB Flash (2MB for user storage) ; 8MB SDRAM		
LED Status	Two bi-color status-LEDs: Ready, Status Control key: FEED		
Power	Auto Switching 100-240VAC, 50-60Hz		
Environment	Operation temperature: 5°C to 40 °C Storage temperature: -20 °C to 50 °C		
Humidity	Operation: 30-85%, non-condensing Storage: 10-90%, non-condensing		





Agency Approvals	CE
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**Weitere Standorte:** München, Hamburg, Frankfurt, Darmstadt, Bregenz, Lyon - [www.opal-holding.com](http://www.opal-holding.com)

Model Name	OD5+ECO	OD5+	OD5+300
Dimension	Length: 285mm (11.2") / Height:171mm (6.8") / Width:226mm (8.9") / Weight:~2.7 kg		
Standard Accessory	Stripper Module	Stripper Module Ethernet 10/100Mbps print server (Standard on; USB off)	
Options	CF card adapter internal LAN card	CF card adapter with real time clock (max. 4GB CF card). 1GB can be formatted.	

**Note:**

- Specifications are subject to change without notice. All company and/or product names are trademarks and/or registered trademarks of their respective owners.

## 6.2 Interfaces

### Parallel Interface

PIN Nr.	FUNCTION	TRANSMITTER
1	/Strobe	PC / Printer
2-9	Data 0-7	PC
10	/Acknowledge	Printer
11	Busy	Printer
12	/Paper end	Printer
13	/Select	Printer
14	/Auto-Linefeed	PC / Printer
15	N/C	
16	Signal ground	
17	Chassis ground	
18	+5V,max 500mA	
19-30	Signal ground	PC
31	/Initialize	PC / Printer
32	/Trouble message	Printer
33	Signal ground	
34-35	N/C	
36	/Select-in	PC / Printer

### Serial Interface

Standard Settings: 9600 Baud Rate, no Parity, 8 Data Bits, 1 Stop Bit, XON/XOFF

DB9 SOCKET		DB9 PLUG
---	1 _____ 1	+5V,max 500mA
RXD	2 _____ 2	TXD
TXD	3 _____ 3	RXD
DTR	4 _____ 4	DSR
GND	5 _____ 5	GND
DSR	6 _____ 6	DTR
RTS	7 _____ 7	N/C
CTS	8 _____ 8	RTS
RI	9 _____ 9	N/C
PC		Printer

The total current output from parallel port and serial port all together can't exceed 500mA.



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**USB Interface**

Connector type: Type B

PIN NO.	1	2	3	4
Function	VBUS	D -	D +	GN D

**Internal Interface**

UART1 wafer	
N.C	1 _____ 1
TXD	2 _____ 2
RXD	3 _____ 3
CTS	4 _____ 4
GND	5 _____ 5
RTS	6 _____ 6
E_MD	7 _____ 7
RTS	8 _____ 8
E_RST	9 _____ 9
+5V	10 _____ 10
GND	11 _____ 11
+5V	12 _____ 12

Ethernet module	
N.C	
RXD	
TXD	
RTS	
GND	
CTS	
E_MD	
CTS	
E_RST	
+5V	
GND	
+5V	

UART2 wafer	
+5V	1 _____ 1
CTS	2 _____ 2
TXD	3 _____ 3
RTS	4 _____ 4
RXD	5 _____ 5
GND	6 _____ 6

Expansion module	
+5V	
RTS	
RXD	
CTS	
TXD	
GND	

